NACWA
A Clear Commitment to America's Waters

May 5, 2011

EPA Docket Center (EPA/DC)
U.S. Environmental Protection Agency
Mailcode 28221T
Attention Docket ID No. EPA-HQ-OAR-2011-0083
1200 Pennsylvania Ave., NW
Washington, DC 20460
Via email: *GHGbiogenic@epa.gov*

Re: Docket ID EPA-HQ-OAR-2011-0083, Deferral for CO_2 Emissions from Bioenergy and Other Biogenic Sources under the Prevention of Significant Deterioration (PSD) and Title V Programs: Proposed Rule

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to comment on the proposed deferral for carbon dioxide (CO_2) emissions from biogenic sources under the Clean Air Act (CAA) Title V and PSD programs. NACWA represents the interests of nearly 300 public wastewater treatment agencies, which treat and reclaim a majority of the wastewater generated each day throughout the nation. The processes used at these publicly owned treatment works (POTWs) generate biogas and biosolids which, when combusted, are among the most carbon-neutral fuels available.

NACWA supports the proposed three-year deferral for biogenic CO_2 emissions from the PSD and Title V permitting programs while EPA studies the broader issue of biogenic greenhouse gas (GHG) emissions. NACWA encourages EPA to finalize the proposed deferral and eventually make the exemption permanent. This action will re-align these CAA permitting programs with the major GHG regulatory and policy programs worldwide, including the Intergovernmental Panel on Climate Change (IPCC), California's regulations under AB 32, and EPA's own Renewable Fuel Standard (RFS2). In the event that EPA proceeds with permitting biogenic sources, NACWA also supports EPA's interim guidance for stationary source PSD permitting, which allows permitting authorities to conclude that the best available control technology (BACT) for biogenic CO_2 emissions at stationary sources is simply the combustion of biomass fuels.

NACWA's comments are focused specifically on the biogenic GHG emissions from wastewater treatment at POTWs, a vital process for protecting human health and the environment. NACWA's primary recommendations regarding the deferral of biogenic CO_2 emissions are as follows:

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1. While EPA studies biogenic GHG emissions, the Agency should keep in mind the differences between waste-derived biogenic sources and for-profit biomass operations. The biogenic CO_2 emissions from wastewater treatment processes result from wastes derived from natural sources undergoing the same processes found in nature, and these operations lack the many adverse consequences (such as land use changes) associated with biogenic sources not derived from wastes.

2. All waste-derived CO_2 emissions from POTWs should also be excluded from PSD review and Title V permitting requirements. Biogenic emissions include process emissions from wastewater treatment as well as combustion of biogas and biosolids.

3. Waste-derived biogas and biosolids should continue to be promoted as an environmentally-friendly, renewable energy resource that reduces dependence on fossil fuels.

4. Biogenic CO_2 emissions from biogas and biosolids combustion should not be regulated under the CAA permitting programs, to avoid disincentives for using these renewable energy resources.

More details about each of these recommendations are provided below.

1. **Waste-derived biogenic emissions of CO_2, including those from essential services like wastewater treatment, are carbon-neutral emissions that would occur naturally anyway.** Carbon present in the biogas and biosolids from wastewater treatment originates from CO_2 recently sequestered in plant material that was harvested mainly for food production. POTWs are designed to concentrate the natural bacteria that would otherwise consume these wastes in the open environment and provide them with sewage flow in a more efficient manner than what occurs in nature. What might take days or weeks in nature occurs within hours in a POTW. The processes generating CO_2 in a POTW are the same as those that occur in nature, except that in a POTW they occur in an environment optimized for waste destruction.

   Concerns about biogenic emissions are usually related to the land use practices of crops grown specifically for use as energy sources. Since biogas and biosolids are derived from wastewater, there is no impact on land use for these energy sources. Biosolids that are used as fertilizer may also help contribute to carbon sequestration in the soil and avoid the additional GHG emissions from conventional fertilizers.

   Treatment plant operators cannot compromise their environmental responsibilities and have little control over the wastes they must treat. Unlike for-profit operations, wastewater utilities treat human waste to protect the environment and public health every day as required by law. Human waste is a product that is here to stay, and will produce CO_2 as one of the steps in the natural short-term carbon cycle whether or not a wastewater utility is in the loop.

   Because of the mandatory nature of POTW operations and their inseparable role in the short-term carbon cycle, NACWA supports EPA's proposed rulemaking and further recommends the permanent exclusion of waste-derived biogenic emissions from PSD review and Title V permitting.

2. **The deferral from CAA permitting programs should specifically include both combustion and non-combustion biogenic sources of CO_2.** In the proposed rule, combustion of biosolids and biogas are specifically listed as exclusions, but wastewater treatment CO_2 *process* emissions are not mentioned. Again, wastewater treatment is a vital natural function that cannot be eliminated. Utilities should therefore not be penalized for biogenic emissions resulting from the mandatory treatment of these wastes. Composting should be included as well since its waste-derived emissions are part of the same short-term cycle.

3. **Biogas and biosolids are renewable energy resources that should continue to be promoted as environmentally-friendly alternatives to fossil fuel.** Bioenergy from waste-derived biogas and biosolids-derived fuels converts potentially harmful GHG emissions from methane to a carbon-neutral form. This is an important, environmentally-protective function, since methane has a global warming potential that is 23 times that of CO_2. Use of biogas and biosolids also replaces fossil fuels as an energy source.

   These benefits have been scrutinized in the development of California's Low Carbon Fuel Standard (LCFS), a component of California's AB 32 Scoping Plan. In that effort, the California Air Resources Board (CARB) concluded in its "well to wheel" pathway fuel analysis that waste-derived biogas from landfills has the *lowest* carbon intensity of any of the fuels studied[1]. This analysis weighed both the positive (fossil fuel displacement) and adverse (land use change) impacts of these fuels. Although CARB reached this conclusion with landfill gas and has yet to undertake a pathway analysis for digester gas from POTWs, NACWA firmly believes that such a study of digester gas or biosolids, which have similar properties within the carbon cycle, would yield the same conclusion. The three-year deferral will allow EPA to further investigate the benefits of these waste-derived fuels.

   EPA has recognized the importance of biogas and biosolids in its recent Renewable Fuel Standard (RFS2), stating, "…current literature suggests approximately 24 billion ethanol-equivalent gallons of biogas could potentially be produced in the long term, with about two-thirds coming from biomass [biosolids] gasification and about one third coming from waste streams such as landfills and human and animal sewage digestion."[2] EPA has also further concluded that biosolids contain potentially 10 times the energy needed to treat it, and that it is technically feasible to recover this energy from biosolids.[3]

   POTWs should be encouraged to continue development, implementation, and improvement of energy recovery methods for biosolids and biogas. Biogas and biosolids are not "wastes;" they are important resources necessary to meet renewable energy goals of the states and potentially the federal government.

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[1] Low Carbon Fuel Standard, Table 6. Carbon Intensity Lookup Table for Diesel and Fuels that Substitute for Diesel. (*http://www.arb.ca.gov/fuels/lcfs/010611lcfs_lutables.pdf*) Accessed 04/28/2011. See Pathway CNG003.
[2] EPA Renewable Fuel Standard Program (RFS2) Regulatory Impact Analysis, February 2010, Page 76.
[3] Water Environment Research Foundation, Fact Sheet, Wastewater Sludge: A New Resource for Alternative Energy and Resource Recovery. From the WERF Publication, "State of Science Report: Energy and Resource Recovery from Sludge."

4. **Regulation of biogenic emissions from waste-derived biogas and biosolids combustion would disincentivize this source of renewable energy.** Regulations on bioenergy will generally favor the adoption of the fossil fuel alternative because fossil fuel operations tend to be less expensive. Considerable pre-treatment technologies (e.g., for siloxane removal) are needed before wastewater-derived biogas can be used in fossil fuel powered equipment. Bioenergy devices lack the same economies of scale as their fossil fuel counterparts simply because they are not as numerous. A POTW compelled to perform a PSD BACT analysis may reconsider its prior commitment to biogenic fuels to minimize the burden on its ratepayers. The least expensive alternative could likely be a fossil fuel combustion device.

   Additionally, very few of the approximately 16,000 POTWs in the U.S. are regulated under PSD and Title V because of pollutants other than GHGs. If EPA does not defer consideration of biogenic emissions from PSD and Title V, many new sources could be brought into these complex permitting programs.

   If required to perform a PSD analysis, POTWs have little guidance on how to calculate their emissions. Detailed calculations of biogenic and nonbiogenic CO_2 emissions at specific units (e.g., each aeration basin for basins operated in parallel) are beyond the scope of the existing published methods and impose a permitting and administrative burden on the regulated community and the regulatory agencies. Existing methods which exclude CO_2 wastewater process emissions for wastewater treatment plants, such as those developed by the IPCC, were generally developed for large-scale inventory purposes. No peer-reviewed methods have been established for CO_2 emissions, and currently available methods do not allow for a unit-by-unit calculation.

   EPA's Office of Air and Radiation entered into an agreement with the Research Triangle Institute (RTI) to develop estimation methods for biogenic emissions from landfills, ethanol production, and wastewater treatment plants.[4] The report's chapter on wastewater treatment was originally completed without any input from POTWs or EPA's Office of Water, although EPA is now seeking public comment on the report. NACWA believes that the methods used in this report could over-estimate POTW emissions, and is concerned about the impact of overestimation while EPA considers the deferral of biogenic CO_2 emissions. Although this report is one of several methodologies yielding widely different emissions estimates for POTWs, it is the only EPA-sanctioned guidance on the topic, and many regulatory authorities may defer to this document in lieu of other sources of information.

   In the event that EPA proceeds with permitting biogenic sources, NACWA urges EPA to expand the interim guidance for stationary source PSD permitting to allows permitting authorities to conclude that the best available control technology (BACT) for CO_2 emissions from the wastewater treatment process at stationary sources is simply the treatment process itself. This approach is consistent with the approach regarding combustion of biomass fuels.

[4] Greenhouse Gas Emissions Estimation Methodologies for Biogenic Emissions from Selected Source Categories: Solid Waste Disposal, Wastewater Treatment and Ethanol Fermentation. EPA Contract No. EP-D-06-118, December 14, 2010.

NACWA appreciates EPA's consideration of these comments and looks forward to working with the independent scientific panel that EPA is forming to consider the technical issues of biogenic emissions over the next three years. Please contact me at 202/296-9836 or *cfinley@nacwa.org* if you have any questions.

Sincerely,

Cynthia A. Finley
Director, Regulatory Affairs